UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/016,282	12/06/2001	Thomas W. Konowalchuk	LFT000 CIP3	4202

7590 10/22/2002

Steven C. Petersen
Hogan & Hartson, LLP
Suite 1500
1200 17th Street
Denver, CO 80202

EXAMINER	
HUI, SAN MING R	
ART UNIT	PAPER NUMBER
1617	

DATE MAILED: 10/22/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/016,282	KONOWALCHUK ET AL.	
	Examiner	Art Unit	
	San-ming Hui	1617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 July 2002* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

The amendments filed July 3, 2002 has been entered.

The outstanding rejections under 35 USC 102(b) and 103(a) are withdrawn in view of the amendments filed July 3, 2002. The cited prior arts do not teach the specific amount of alcohol, 0.2 to 30%, as now recited in the claims.

Claims 1, 17, and 26 recite the method of prophylaxis employing the herein compounds. However, the scope of those claims is not clear because the patient population of such prophylactic treatment is not recited. Applicant is encouraged to insert phrases such as "in patients in need of such prophylaxis" into the independent claims herein.

Claims 1-26 are pending.

This is regarding the potential obvious double patenting rejections over the claims of US application 10/021,533. The examiner realizes both the instant application and 10/021,533 are continuation-in-part of US application 09/795,279 and both applications are filed as a result of the restriction requirement set forth in the parent application. However, the scope of the instant claims is different than the subject matter set forth in the restriction requirement set forth in US application 09/795,279. The scope of the instant claims is no longer drawn to the prophylaxis of lesions caused by herpeviruses only. Therefore, if either one application is allowed, applicant is advised to file a terminal disclaimer or amend the claims to avoid obvious double patenting rejection.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-9, 11-18, and 20-26 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The added material which is not supported by the original disclosure is as follows: the limitation "0.2 - 30% by volume" recited in claims 1, 17, and 26 in the amendment filed July 3, 2002. This limitation is not supported by the originally filed specification or claims.

Applicant is required to cancel the new matter in the reply to this Office Action.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The expression "sufficient amount of an acid to adjust the pH" in claims 1 and 17 renders the claims indefinite as to what amount of acid is encompassed by the claims. Please note that only the pH-adjusting amount of glycolic acid and HCl are disclosed in

page 8, paragraph 0038 in the instant specification. It is not clear what amount of other acids, such as acetic acid or malic acid, would be needed to adjust the pH to 4.6 or 2.45.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-6, 9-14, 16-23, and 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yu et al. (US Patent 5,385,938) in view of Poli et al. (Food Chemistry, 1979; 4(3): 251-258) and Wenninger (International Cosmetic Ingredient Dictionary and Handbook, 7th ed., Vol. 1, page 163-168).

Yu et al. teaches a topical composition with glycolic acid is the active and about 12.4% ethanol as solvent (See col. 14, Example 1). Yu et al. also teaches that the composition has pH of 3.0 (See col. 14, Example 1). Yu et al. also teaches that the glycolic acid composition is useful to eradicate lesions such as warts, which is a viral infection of papallomas virus (See col. 30, line 10 – col. 31, line 2). Yu et al. also teaches that other pharmaceutically acceptable vehicles other than water and ethanol may be used (See col. 13, lines 11-13). Yu et al. also teaches that the concentration of hydroxyacids, including glycolic acid, may range from 0.02 to 12M (See col. 13, lines 17-19). Yu et al. also teaches that the composition may be formulated into gel,

ointment, cream, lotion, and other cosmetic and pharmaceutical preparation (See col. 13, lines 4-6).

Yu et al. does not expressly teach 1,3-butanediol, as known as butylenes glycol, is useful as pharmaceutical vehicle. Yu et al. does not expressly teach that the glycolic acid containing topical composition as useful in the prophylaxis of lesions caused by viruses within the Herpesvirdae. Yu et al. does not expressly teach the composition having a specific pH of 2.45. Yu et al. does not expressly teach the concentration of glycolic acid in the composition as 0.6%.

Poli et al. teaches that glycolic acid is virucidal against herpevirus (See particularly page 253, Table 1).

Wenninger teaches that butylenes glycol as useful as solvent in numerous cosmetic marketed products (See page 163-168).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ butylenes glycol as solvent in the topical wart-treating composition of Yu et al. and adjust the pH to 2.45. It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the glycolic acid containing topical composition, in the prophylaxis of lesions caused by viruses within the Herpesvirdae. It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate 0.6% of glycolic acid to the herein claimed prophylactic method.

One of ordinary skill in the art would have been motivated to employ butylenes glycol as solvent in the topical wart-treating composition of Yu et al. and adjust the pH to

2.45 because butylenes glycol is known to be useful in cosmetic products as solvent. Employing any known solvents, including butylene glycol, into a topical composition would have been reasonably expected to be useful in formulating a topical wart-treating composition and treating the same. Moreover, the optimization of result effect parameters (e.g., pH of the composition and the amount of active (glycolic acid)) is obvious as being within the skill of the artisan, absent evidence to the contrary.

One of ordinary skill in the art would have been motivated to employ the glycolic acid containing topical composition in the prophylaxis of lesions caused by viruses within the Herpesvirdae. Based on the teachings of Poli et al. and Yu et al., glycolic acid is known to be effective in killing herpes virus. Therefore, applying a glycolic acid composition to reduce the number of herpes viruses, and thereby reducing the chances for herpes viruses to cause the lesions, would have been reasonably expected to be effective.

Claims 1, 7-8, 15, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bhatia et al. (Indian Journal of Animal Sciences 1998; 68(6): 518-520, reference of record) in view of Disinfectant Drugs (Therapeutic Products Programme Guidelines published by Health Canada, April 1999, pages 42-45) and Remington (Remington's Pharmaceutical Sciences, 18th ed., 1990, pages 218-219 and1314-1315).

Bhatia et al. teaches that 0.4N hydrochloric acid is effective in inactivating sheep pox virus (See particularly page 519, col. 1, Table 1 and col. 2, third paragraph). Bhatia

et al. also teaches that the "Ranch" strain of goat pox virus is more sensitive in acidic pH 3.0 as there was 5 log fall in the titer in the acidic pH (See page 519, col. 2, third paragraph).

Bhatia et al. does not expressly teach the use of hydrochloric acid with an alcohol, in the amount of 0.2% to 30% or 0.2% to 12.5% in volume, in the method of prophylaxis of lesions caused by Poxviridae such as molluscum contagiosum. Bhatia et al. does not expressly teach the pH of the composition as 2.45.

Disinfectant Drugs teaches isopropanol 15% or above is effective as a single medicinal ingredient for disinfecting contact lens (See page 43, Table).

Remington teaches that isopropanol is a very good pharmaceutical solvent, which is comparable to ethanol (see page 219, col. 1). Remington also teaches that ethanol is a very good pharmaceutical solvents (See page 1314, col. 2 – page 1315, col. 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate isopropanol, in the amount of 0.2% to 30% or 0.2% to 12.5% in volume, with hydrochloric acid in a method for the prophylaxis of lesions caused by Poxviridae such as molluscum contagiosum. It would have been obvious to one of ordinary skill in the art at the time the invention was made to adjust the pH of the composition to 2.45.

One of ordinary skill in the art would have been motivated to incorporate isopropanol, in the amount of 0.2% to 30% or 0.2% to 12.5% in volume, with hydrochloric acid in a method for the prophylaxis of lesions caused by Poxviridae such

as molluscum contagiosum because isopropanol is known to be useful as both a solvent and a disinfectant and hydrochloric acid is known to have virucidal activities against pox viruses. Employing hydrochloric acid in a method of prophylaxis of lesions caused by pox viruses, such as molluscum contagiosum, would have been reasonably expected to be effective. Incorporating a well-known commonly used pharmaceutical solvent, such as isopropanol, into a topical formulation and optimizing the amount of such solvent used for the same purpose would be obvious as being within the purview of skilled artisan. Moreover, adding a secondary disinfectant such as isopropanol to control the secondary infection which may be accompanied by the outbreaks or lesions caused by such virus infection would also be reasonably expected to be useful. Furthermore, optimization of the pH to 2.45 would be considered obvious as being within the purview of skilled artisan.

It is applicant's burden to demonstrate unexpected results over the prior art. See MPEP 716.02, also 716.02 (a) - (g). Furthermore, the unexpected results should be demonstrated with evidence that the differences in results are in fact unexpected and unobvious and of both statistical and practical significance. *Ex parte Gelles*, 22 USPQ2d 1318, 1319 (Bd. Pat. App. & Inter. 1992). Moreover, evidence as to any unexpected benefits must be "clear and convincing" *In re Lohr*, 137 USPQ 548 (CCPA 1963), and be of a scope reasonably commensurate with the scope of the subject matter claimed, *In re Linder*, 173 USPQ 356 (CCPA 1972). In the instant case, the data in page 9, 10, 14-16 has been considered, but are not found persuasive. The data merely demonstrates the upper limit of effective pH for virucidal activities. Please note that the

pH of the composition mainly depend on the amount of acids present in the composition. Therefore, the data regarding the pH limitation is considered as a reflection of what the effective amount of glycolic acid required in order for the composition to be virucidal (See page 10 of the instant specification, Tables 2 and 3). This is seen to be an expected effect based on the cited prior art. No convincing and clear unexpected result is seen.

Response to Arguments

Applicant's arguments with respect to claims 1-26 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments regarding the exhibit teachings of high concentration of alcohol have been considered but are not found persuasive. It is well-known that not only the concentration of alcohol but also the time of contact is essential for the antiseptic or microbial killing activities. Even the concentration of the alcohol is low, if the time of contact is long enough, its antiseptic effect would still be observed. Diehl et al. and Kramer et al., provided by the applicant as Exhibit, disclose hand disinfectant formulation using high concentration of alcohol in order to achieve fast virus- and bacteria-killing effect. Kurtz et al., also provided by the applicant as Exhibit, clearly disclosing the effectiveness of 20% isopropanol for reducing the viral titer of rotavirus even after only one minute (See page 323, Table 3). Kurtz et al. discloses the effectiveness of various alcohols against viruses causing GI problems, such as

Rotavirus, Astrovirus, and Echovirus, they are not the same class as Herpeviridae or Poxvirudae.

Response to the Declaration by Dr. konowalchuk

The data presented in the declaration by Dr. Konowalchuk filed July 3, 2002 have been considered but are not found persuasive in view of the new ground of rejection set forth in the instant office action.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to San-ming Hui whose telephone number is (703) 305-1002. The examiner can normally be reached on Mon 9:00 to 1:00, Tu - Fri from 9:00 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreeni Padmanabhan, PhD., can be reached on (703) 305-1877. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-4556 for regular communications and (703) 308-4556 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1235.

San-ming Hui
October 21, 2002

SREENI PADMANABHAN
PRIMARY EXAMINER 10/21/02